Claims

1. A dual wavelength focal plane comprising:

a first array of infrared sensing pixel elements;

a second array of visible light pixel elements adapted to be selective to colors encountered while driving an automobile.

2. The focal plane of claim 1 wherein the second array is selective to the color red.

3. The focal plane of claim 1 wherein the second array is selective to the colors red, green and blue.

4. The focal plane of claim 1 wherein the first and second arrays are fabricated on a monolithic silicon substrate.

5. The focal plane of claim 1 and further comprising a visible light filter that passes red light to the second array of visible light pixel elements.

6. The focal plane of claim 1 and further comprising multiple filters for selectively passing red, green and blue light to the second array of visible light pixel elements.

7. A dual wavelength focal plane comprising:

a first array of infrared sensing pixel elements;

a second array of sets of three pixel elements adapted to be selective to red, blue and green respectively

8. A sensor for aiding an automobile driver at night, the sensor comprising:

a first array of infrared sensing pixel elements formed on a silicon substrate;

a second array of sets of three visible sensors adapted to be selective to red, blue and green respectively, each set of photosensors formed on the silicon substrate beneath the infrared sensing pixel element.

9. A night display system for an automobile, the system comprising:

a first array of infrared sensing pixel elements;

a second array of photosensors adapted to be selective to traffic control signals; and,

a heads up display coupled to the arrays for generating an image based on infrared images and visible light corresponding to traffic control signals.

10. A method of providing a heads up display for enhancing visibility for night time drivers of vehicles, the method comprising:

sensing infrared radiation sources generally in the path of the vehicle;

selectively sensing visible radiation corresponding to traffic control colors; and

combining the sensed visible radiation and infrared radiation to provide images for the heads up display, wherein the traffic control colors are displayed in color.

11. The method of claim 10 wherein an array of infrared sensors are used to sense the infrared radiation, and an array of silicon photosensors are used to sense selected colors.

12. The method of claim 11 wherein the arrays are vertically integrated into an monolithic silicon substrate to optimize fill factor.

13. A method of forming a dual wavelength focal plane, the method comprising:

forming an array of visible light pixel elements adapted to be selective to colors encountered while driving an automobile, the array being formed on a silicon substrate; and

forming an array of infrared sensing pixel elements on top of the array of visible light pixel elements, wherein the infrared sensing pixel elements pass visible light to the array of visible light pixel elements.

14. The method of claim 13, and further comprising forming red, amber and green visible light filters corresponding to the visible light pixel elements.